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REMARKS/DISCUSSION OF ISSUES

By this Amendment, Applicant amends claim 18 to correct a minor typographical error.

Claims 1-19 are pending in the application.

Applicant acknowledges the indication that claims 16-17 define patentable subject matter and would be allowable if rewritten in independent form including all limitations of their respective base claims and any intervening claims.

Reexamination and reconsideration are respectfully requested in view of the following Remarks.

35 U.S.C. § 103

The Office Action rejects: claim 1-4, and 8 under 35 U.S.C. § 103 over Hagen et al. U.S. Patent 6,182,030 ("Hagen") in view of Taubman U.S. Patent 6,778,709 ("Taubman"); claims 11 and 13 under 35 U.S.C. § 103 over Hagen in view of Taubman and further in view of Maertens U.S. Patent 5,727,036 ("Maertens"); claims 5, 9 and 18 under 35 U.S.C. § 103 over Hagen in view of Taubman and further in view of Chao et al. U.S. Patent 5,204,882 ("Chao"); claim 12 under 35 U.S.C. § 103 over Hagen in view of Taubman and Maertens and further in view of Chao; claims 6-7, 10, 15, and 19 under 35 U.S.C. § 103 over Hagen in view of Taubman and further in view of Van Wie U.S. Patent 6,240,185 ("Van Wie"); and claim 14 under 35 U.S.C. § 103 over Hagen in view of Taubman and Maertens and further in view of Van Wie.

Applicant respectfully traverses all of these rejections for at least the following reasons.

Claim 1

Among other things, the method of claim 1 includes distorting the bitstream of a primary signal by a particular distortion representing a secondary signal.

The Office Action apparently admits that Hagen does not disclose such a feature. Furthermore, Applicant does not see anything in the Office Action that asserts that such a feature is disclosed by Taubman either!

Indeed, the Office Action never even makes explicit mention of the feature of

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distorting the bitstream of a primary signal **by a particular distortion representing a secondary signal**. Instead, the Office Action merely states that *"Hagen is silent on the capability of showing the bitstream of the primary signal is distorted and then outputting the bitstream of the primary signal."* But of course, in any event, that is only part of the features of claim 1. Specifically, even if, *arguendo*, Hagen (or even some proper modification of Hagen based on the teachings of Taubman) actually disclosed distorting a primary bitstream and then outputting it, that would still not disclose the method of claim 1, because in the method of claim 1, **a secondary signal of a secondary channel is represented by the particular distortion of the primary signal of the primary channel**.

So, the Office Action even fails to assert that any combination of Hagen and Taubman would produce a method including all of the features of claim 1.

The Office Action states that Taubman discloses in FIG. 2 a method of sub-band decomposition, and that while the blocks are being individually coded, Taubman generates distortion rate data that may be used by the coder to determine candidate truncation points for each block bitstream.

So what? This not being what is claimed in claim 1. What does the generation of distortion rate data for each block by Taubman's encoder, so that it can more efficiently set coding parameters such as truncation points, have to do with a process of distorting a first bitstream with a specific distortion that represents a secondary signal of a secondary channel? Applicant respectfully submits that Taubman does not disclose distorting a first bitstream with a specific distortion that represents a secondary signal of a secondary channel

Therefore, very clearly, no possible combination of Hagen and Taubman could ever possibly produce the method of claim 1.

Furthermore, Applicant respectfully traverses the proposed combination of Hagen and Taubman.

M.P.E.P. § 2143.01(VI) provides that:

"THE PROPOSED MODIFICATION CANNOT CHANGE THE

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PRINCIPLE OF OPERATION OF A REFERENCE

If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious. In re Ratti, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)."

Here, Hagen discloses improvements for a linear-prediction-based analysis-by-synthesis (LPAS) algorithm for coding low-bit rate audio (e.g., voice) signal. In stark contrast, Taubman discloses a completely different compression approach using wavelet transforms to perform sub-band decomposition on image signals. Indeed, Taubman specifically discloses that its invention exploits psycho-visual properties, which would not pertain at all to the low bit rate LPAS algorithm of Hagen.

How or why would anyone of any skill or knowledge in the art modify Hagen's LPAS algorithm to incorporate anything from Taubman's subband decomposition algorithm of FIG. 2?? Any such change – if even possible – would surely change the principle of operation of Hagen's invention.

Therefore, the proposed combination is respectfully traversed.

Accordingly, for at least these reasons, Applicant respectfully submits that claim 1 is patentable over the cited art.

Claims 2-4

Claims 2-4 depend from claim 1 and are deemed patentable for at least the reasons set froth above with respect to claim 1, and for the following additional reasons.

Among other things, in the methods of claims 2 and 3, distorting the bitstream of the primary signal comprises inserting local phase errors in the bitstream of the primary signal. Meanwhile, in the method of claim 3, the absolute value of the phase error is chosen such that it is smaller than the channel clock period of the primary channel. Furthermore, in the method of claim 4, low frequency variations are

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introduced into the channel clock of the primary channel

Applicant respectfully submits that Hagen does not disclose or suggest such features.

Claims 2 & 3

The Office Action states that Hagen "provides" encoding of an adaptive equalization operator by means of a bit stream "which may be separable from the bit stream of the primary coding algorithm."

Of course, that is not what is recited in either claim 2 or claim 3. The Office Action make no mention whatsoever of: (1) inserting local phase errors in the bitstream; (2) an absolute value of the phase error; or (3) the channel clock period of the primary channel. Applicant respectfully submits that Hagen does not disclose any of these features. Applicant respectfully submits that it is facially clear that the Office Action has not supported any rejection of claims 2-3 under 35 U.S.C. § 103 over Hagen in view of Taubman.

Claim 4

Among other things, in the method of claim 4, low frequency variations are introduced into the channel clock of the primary channel.

Applicant respectfully submits that Hagen does not disclose or suggest such a feature.

Neither FIG. 5 of Hagen nor the text at col. 8, lines 56-65, discloses or remotely suggests introducing low frequency variations into the channel clock of the primary channel. Indeed, neither the cited text nor FIG. 5 even mentions the channel clock!

Accordingly, for at least these additional reasons, Applicant respectfully submits that claims 2-4 are patentable over the cited art.

Claim 5

Claim 5 depends from claim 1. Chao does not remedy the shortcomings of Hagen and Taubman with respect to claim 1. Accordingly, claim 5 is deemed patentable for at least the reasons set forth above with respect to claim 1, and for the following additional reasons.

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Among other things, in the method of claim 5, the channel clock of the primary channel is modulated within the bandwidth of a phase locked loop circuit locked to the primary signal for synchronization.

Applicant respectfully submits that no proper combination of Hagen, Taubman, and Chao would produce the claimed method including this feature. Also, Applicant respectfully traverses the proposed combination of Hagen, Taubman, and Chao as totally lacking any motivation whatsoever in the prior art.

Absolutely nothing in the cited text at col. 2, lines 43-52 of Chao discloses or remotely suggests modulating a channel clock of a primary channel within the bandwidth of a phase locked loop circuit locked to the primary signal for synchronization. Furthermore, the cited text at col. 10, lines 16-21 of Chao does not provide any motivation whatsoever for the proposed combination of references.

Accordingly, for at least these additional reasons, Applicant respectfully submits that claim 5 is patentable over the cited art.

Claims 6-7

Claims 6-7 depend from claim 1. Van Wie does not remedy the shortcomings of Hagen and Taubman with respect to claim 1. Accordingly, claims 6-7 are deemed patentable for at least the reasons set forth above with respect to claim 1, and for the following additional reasons.

Applicant respectfully traverses the proposed combination of Hagen and Taubman with Van Wie as totally lacking any proper motivation in the prior art. The "motivations" offered in the Office Action make no sense at all.

Accordingly, for at least these additional reasons, Applicant respectfully submits that claims 6-7 are patentable over the prior art.

Claim 8

Among other things, the apparatus of claim 8 includes distortion means for distorting the bitstream of the primary signal such that the secondary signal is represented by a predetermined distortion.

As explained above with respect to claim 1, no proper combination of Hagen and Taubman suggests distorting the bitstream of a primary signal such that a

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secondary signal is represented by a predetermined distortion. Furthermore, Applicant also respectfully traverses the proposed combination of Hagen and Taubman with respect to claim 8, for similar reasons to those set forth above with respect to claim 1.

Accordingly, for at least these reasons, claim 8 is deemed patentable over the cited art.

Claim 9

Claim 9 depends from depend from claim 8. Chao does not remedy the shortcomings of Hagen and Taubman with respect to claim 8. Accordingly, claim 9 is deemed patentable for at least the reasons set forth above with respect to claim 8, and for the following additional reasons.

Applicant respectfully traverses the proposed combination of Hagen, Taubman, and Chao as totally lacking any proper motivation in the prior art. Indeed, the Office Action does not even bother to try to provide any reason or suggestion why anyone of ordinary skill in the art at the time the invention was made would have made the proposed combination. Lacking any stated motivation for the combination, the rejection is clearly contrary to M.P.E.P. § 2143.01 and should be withdrawn.

Accordingly, for at least these additional reasons, Applicant respectfully submits that claim 9 is patentable over the prior art.

Claim 10

Claim 10 is directed to an apparatus for recording a primary signal of a primary channel on a record carrier that includes the apparatus of claim 8.

Van Wie does not remedy the shortcomings of Hagen and Taubman with respect to claim 8. Accordingly, claim 10 is deemed patentable for at least the reasons set forth above with respect to claim 8, and for the following additional reasons.

Applicant respectfully traverses the proposed combination of Hagen, Taubman, and Van Wie as totally lacking any proper motivation in the prior art.

Accordingly, for at least these additional reasons, Applicant respectfully submits that claim 10 is patentable over the prior art.

Claim 11

Among other things, the method of claim 11 includes detecting the distortion of a bitstream of a primary signal, and decoding a secondary signal from the distortion.

As explained above with respect to claim 1: (1) no combination of Hagen and Taubman would produce a secondary signal of a secondary channel embedded in the bitstream of a primary signal of a primary channel, the secondary signal being represented by a predetermined distortion of the bitstream of the primary signal; and (2) no one of ordinary skill in the art at the time the invention was made would possibly have had any motivation or suggestion to modify Hagen's LPAS algorithm to incorporate anything from Taubman's sub-band decomposition algorithm, and therefore the proposed combination is traversed.

Furthermore, Applicant respectfully submits that none of the cited references, alone or in combination, disclose or suggest detecting the distortion of a primary bitstream, and decoding a secondary signal from the distortion. In particular, nothing in the cited text at col. 11, lines 17-24 of Maertens discloses or even remotely suggests detecting the distortion of a primary bitstream, and decoding a secondary signal from the distortion. Furthermore, since Hagen clearly pertains to an LPAS algorithm for coding low-bit rate audio (e.g., voice) signals, Applicant respectfully traverse the proposed modification with features of a video display system disclosed by Maertens as lacking any motivation in the prior art, and therefore being contrary to M.P.E.P. § 2143.01. Specifically, the proposed "motivation" specifically pertains to a video display system, and has no applicability to Hagen.

Accordingly, for at least these reasons, claim 11 is deemed patentable over the cited art.

Claim 12

Claim 12 depends from claim 11. Chao does not remedy the shortcomings of Hagen, Taubman, and Maertens with respect to claim 11. Accordingly, claim 12 is deemed patentable for at least the reasons set forth above with respect to claim 11, and for the following additional reasons.

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Among other things, the method of claim 12 includes detecting, in a primary signal, distortion representing a secondary signal, in a phase locked loop circuit.

The Office Action states that the rate at which information is transferred from a receiver-buffer to a receiving customer premises equipment is averaged by a digital phase locked loop, and that the phase detector monitors the occupancy of the receive-buffer adjusts a VCO output to maintain the occupancy within a certain range.

So what? This not being what is claimed in claim 1. What does any of that have to do with detecting, in a primary signal, distortion representing a secondary signal, in a phase locked loop circuit? Applicant respectfully submits that the cited text in Chao does not disclose or suggest the above-recited features of claim 12.

Furthermore, Applicant respectfully traverses the proposed combination of Hagen, Taubman, Maertens and Chao as totally lacking any proper motivation in the prior art. The cited text at col. 10, lines 16-21 of Chao does not provide any motivation whatsoever for the proposed combination of references.

Accordingly, for at least these additional reasons, Applicant respectfully submits that claim 12 is patentable over the cited art.

Claim 13

Among other things, the apparatus of claim 13 includes detection means for detecting the distortion of the bitstream, and decoding means for decoding the secondary signal from the distortion.

As explained above with respect to claim 11: (1) no combination of Hagen and Taubman would produce a secondary signal of a secondary channel embedded in the bitstream of a primary signal of a primary channel, the secondary signal being represented by a predetermined distortion of the bitstream of the primary signal; (2) no one of ordinary skill in the art at the time the invention was made would possibly have had any motivation or suggestion to modify Hagen's LPAS algorithm to incorporate anything from Taubman's sub-band decomposition algorithm, and therefore the proposed combination is traversed; (3) none of the cited references, alone or in combination, disclose or suggest detecting the distortion of a primary

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bitstream, and decoding a secondary signal from the distortion; and (4) the proposed combination of <u>Hagen</u>, <u>Taubman</u>, and <u>Maertens</u> lacks any motivation in the prior art, and therefore is traversed as being contrary to M.P.E.P. § 2143.01.

Accordingly, for at least these reasons, claim 13 is deemed patentable over the cited art.

<u>Claim 14</u>

Claim 14 is directed to apparatus for replaying data stored on a record carrier that includes the apparatus of claim 13.

<u>Van Wie</u> does not remedy the shortcomings of <u>Hagen</u> and <u>Taubman</u> with respect to claim 13. Accordingly, claim 14 is deemed patentable for at least the reasons set forth above with respect to claim 13, and for the following additional reasons.

Applicant respectfully traverses the proposed combination of <u>Hagen</u>, <u>Taubman</u>, and <u>Van Wie</u> as totally lacking any proper motivation in the prior art.

Accordingly, for at least these additional reasons, Applicant respectfully submits that claim 14 is patentable over the prior art.

<u>Claim 15</u>

Among other things, in the data carrier of claim 15, the bitstream of the primary signal is distorted before being stored on the data carrier such that a secondary signal is represented by a predetermined distortion.

As explained above with respect to claim 1, no proper combination of <u>Hagen</u> and <u>Taubman</u> suggests distorting the bitstream of a primary signal such that a secondary signal is represented by a predetermined distortion. Furthermore, Applicant respectfully traverses the proposed combination of <u>Hagen</u> and <u>Taubman</u> with respect to claim 15, for similar reasons to those set forth above with respect to claim 1.

Also, <u>Van Wie</u> does not remedy the shortcomings of <u>Hagen</u> and <u>Taubman</u> as set forth above. So, no combination of <u>Hagen</u>, <u>Taubman</u>, and <u>Van Wie</u> could ever produce the data carrier of claim 15.

Applicant also respectfully traverses the proposed combination of <u>Hagen</u>,

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<u>Taubman</u>, and <u>Van Wie</u> as totally lacking any proper motivation in the prior art.

Accordingly, for at least these additional reasons, Applicant respectfully submits that claim 15 is patentable over the cited art.

<u>Claim 18</u>

Claim 18 depends from claim 5 and is deemed patentable over the cited art for at least the reasons set forth above with respect to claim 5, and for the following additional reasons.

<u>The Office Action fails to substantively examine claim 18, instead stating that it has limitations "similar to those of claim 5."</u>

<u>Applicant respectfully disagrees</u>.

Claim 18 includes a feature wherein the channel clock of the primary channel is modulated with a phase or frequency modulated sine wave. Claim 5 does not recite any such feature.

<u>Applicant has paid all of the fees required for each and every one of the claims submitted here, and respectfully insist that under the rules of the U.S. Patent Office, Applicant is therefore entitled to a full, fair, and complete examination of each pending claim. The Examiner is respectfully requested to provide some citation to anything in the cited references disclosing or suggesting that the channel clock of a primary channel is modulated with a phase or frequency modulated sine wave, or else allow claim 18</u>.

<u>Claim 19</u>

Claim 19 depends from claim 6 and is therefore deemed patentable for at least the reasons set forth above with respect to claim 6.

<div align="center">

<u>CONCLUSION</u>

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In view of the foregoing explanations, Applicant respectfully requests that the Examiner reconsider and reexamine the present application, allow claims 1-19 and pass the application to issue. In the event that there are any outstanding matters remaining in the present application, the Examiner is invited to contact Kenneth D. Springer (Reg. No. 39,843) at (571) 283.0720 to discuss these matters.

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If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment (except for the issue fee) to Deposit Account No. 50-0238 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17, particularly extension of time fees.

Respectfully submitted,

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